FINAL
NAVAL AIR STATION ALAMEDA RESTORATION ADVISORY BOARD
MEETING SUMMARY

http://www.efdsw.navfac.navy.mil/environmental/AlamedaPoint.htm
Building 1, Suite 140, Community Conference Center
Alameda Point
Alameda, California

June 2, 2005

The following participants attended the meeting:

Co-Chairs:	
Thomas Macchiarella	Base Realignment and Closure (BRAC) Program Management Office (PMO) West, BRAC Environmental Coordinator (BEC), Navy Co-chair
Jim Sweeney	RAB Vice Community Co-chair
Attendees:	
Jeannette Anderson	Sullivan International Group (Sullivan)
Janet Argyres	Bechtel Environmental, Inc. (Bechtel)
Doug Biggs	Alameda Point Collaborative representative
Neil Coe	RAB
Anna-Marie Cook	U.S. Environmental Protection Agency (EPA)
David Cooper	EPA
Claudia Domingo	BRAC PMO West, Remedial Project Manager (RPM)
Jim French	Bechtel
George Humphreys	RAB
Terry Iwagoshi	Westin Solutions, Inc.
Elizabeth Johnson	City of Alameda
Joan Konrad	RAB
James D. Leach	RAB
Patrick Lynch	Community Member
Frank Matarrese	Alameda City Council
Bert Morgan	RAB
Mark Ripperda	EPA
Peter Russell	Russell Resources Inc./City of Alameda
Dale Smith	RAB/Sierra Club/Audubon Society

Hannah Thompson	Sullivan
Michael John Torrey	RAB/Housing Authority of the City

The meeting agenda is provided in Attachment A.

MEETING SUMMARY

I. Approval of Minutes

Mr. Sweeney, Vice Community Co-Chair, called the meeting to order at 6:30 p.m. He said that Mrs. Sweeney was unavailable to attend tonight.

Mr. Sweeney asked for comments on the minutes from the RAB meeting held on May 5, 2005. Mr. Macchiarella, Mr. Humphreys, Ms. Cook, Ms. Smith and Ms. Johnson provided the following comments:

Mr. Macchiarella's comment

- On page 6 of 8, third paragraph in Section IV, revise "Dr. Serda clarified that only the flower is eaten" to read "Dr. Serda clarified she asked people who were collecting the plant what portion they ate and they told her only the flower was eaten."

Mr. Humphrey's comments

- Meeting minutes did not have Attachment B-5
- On page 3 of 8, second paragraph in Section III, revise "staff and risks to indoor air were within…" to read "staff and risks due to indoor air were within…"
- On page 5 of 8, eighth paragraph, revise "Mr. Coe noted that the asphalt is not on any foundation…" to read "Mr. Coe noted that usually asphalt is laid on top of base rock, which is used as a foundation…"
- Page 7 of 8, last paragraph, "Mr. Humphreys asked if any samples have been collected to identify the use of the tank" will be revised to read "Mr. Humphreys asked if any samples have been collected of waste material disposed of inside the tank."

Ms. Cook's comments

- On page 6 of 8, third paragraph of Section IV, first sentence, replace "milligram" with "kilogram."
- On page 8 of 8, first paragraph, revise "Ms. Cook replied that some samples have been collected for the fuel line but that more may be collected around the tank area" to read "Ms. Cook replied that some samples have been collected as part of a UST [underground storage tank] excavation project, and that the soil that was excavated may have been placed in that tank."

Ms. Smith's comment

- On page 8 of 8, fourth paragraph of Section VI, revise "RAB meeting would stay on it's normal schedule..." to read, "RAB meeting would stay on its normal schedule…"

Ms. Johnson's comment

- On page 8 of 8, third paragraph of Section VI, third sentence, revise "the city hopes to bid for the maintenance..." to read "the city hopes to negotiate for the maintenance…"

The minutes were approved by the RAB, with the exception of Ms. Smith, provided that the previous comments were incorporated.

II. Co-Chair Announcements

Mr. Sweeney said that two publications were received recently: the draft final work plan for the feasibility study (FS) for the Seaplane Lagoon, and the final work plan for offshore sediments at Oakland Inner Harbor Pier Area and Western Bayside. Both documents are dated May 27, 2005.

Mr. Sweeney also said that he had received two copies of the revised FS report for Site 1. One of the copies is available for the RAB to review.

Ms. Smith asked if Mr. Sweeney had received comments from the California Department of Toxic Substances Control (DTSC) on the radiological characterization survey for Site 1. Mr. Sweeney indicated that he had received the comments and provided them to Ms. Smith.

Mr. Macchiarella announced that Judy Huang (Regional Water Quality Control Board) and Marcia Liao (DTSC) would not be attending the RAB meeting this evening. He also said that the BRAC office in San Diego would be moving in the next few months. He added that the Navy BRAC office is working on a new website, which will be released in the near future.

Mr. Torrey asked where the BRAC office was moving. Mr. Macchiarella responded that the office is moving to another part of San Diego.

Mr. Macchiarella said that RAB members, some representatives of the city, and certain Alameda Point tenants within the area of Operable Unit (OU)-2B should have received a one-page information sheet indicating that soil gas samples will be collected in the next several months in OU-2B.

Mr. Macchiarella distributed the list of the Navy Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) program documents planned for June and July 2005 (Attachment B-1).

III. Site Management Plan Presentation

Mr. Macchiarella distributed a summary of the draft schedule for the Site Management Plan (SMP) (Attachment B-2) and discussed the June 2005 annual amendment to the SMP.

Mr. Macchiarella said that the SMP is updated every year and projects are scheduled around available funding. He announced that $19 million dollars is available for fiscal year 2006, which would be sufficient funding for all the anticipated projects for 2006. Mr. Macchiarella added that no planned projects were slowed down in order to account for funding. He said that the draft annual SMP amendment is due June 15, 2005. There will be a 30-day review period for the regulatory agencies and the public. He noted that the Federal Facilities Agreement (FFA) does not allow any extensions of the review period for this document. After the review period, the Navy has 30 days to respond to comments and finalize the document.

Mr. Macchiarella explained the schedule and what the various colors on the graph represented. He pointed out that remedial action (cleanup) for Sites 25 and 26 will begin in 2006, but that most of the other remedial actions will begin in 2007 and beyond.

Mr. Macchiarella encouraged the RAB to review the draft amendment to the SMP once it is included in the repository for viewing. The document should be available by June 16, 2005.

IV. Draft Feasibility Study for Site 1 Presentation

Ms. Domingo (Navy) announced that the Site 1 revised FS report is currently available for review. Ms. Domingo introduced Mr. French (Bechtel) to discuss the Site 1 FS; a handout was provided and is included as Attachment B-3 to these minutes.

Mr. French said that Site 1 was used as a disposal area at Alameda Point from 1943 to 1956. Mr. French identified the location of Site 1, a 78-acre area in the west-northwest portion of Alameda Point (see Slide 2). He said that the proposed reuse of Site 1 is as a golf course and beach.

Mr. French presented a 1949 aerial photograph of Site 1 on Slide 3. On the photograph, Mr. French identified the 26-acre disposal area within Site 1, and noted that the main disposal area was located in the northwestern side of Site 1. He speculated that aircraft engines, waste paint, and debris were disposed to the south of the main disposal area. Mr. French also identified an area that he believes contains sunken barges along the southwestern shoreline of Site 1 and also a staging area for equipment in the northeastern section of the aerial photograph.

Mr. Torrey asked if the barges were still in that area. Mr. French responded that he believed that they were still in that area.

Mr. Humphreys asked if there was a pier or jetty at the northwestern section of the photo. Mr. French answered that it appears that a jetty was in that area in 1949.

Mr. French provided an aerial photograph from 1957 (Slide 4), which was taken after disposal ceased. He noted that a runway was now constructed over the site. He pointed out that the equipment storage area was no longer recognizable. Mr. French continued that there is a pistol and skeet range in the southwest corner of the aerial photograph; Mr. French noted that area is where the burn and beach area sampling occurred.

Mr. French pointed out that there is a historical training wall in the northern end of the site. He said that he would discuss this wall more in the following slide. Mr. French also pointed out an area in the northwestern corner of Site 1 where it is has been reported that the open burning of wastes occurred. He believes the burning of waste took place toward the end of the disposal period, in about 1956.

Mr. French described the Alameda Training Wall as a rubble masonry jetty that was built by the U.S. Army Corps of Engineers between 1874 and 1896 to create a channel between Oakland and Alameda; it also provided hydraulic support. Mr. French said that the Navy has agreed to protect the training wall as historic property.

Mr. French next discussed the beach and burn area sampling. He said that four soil borings, three samples from each, were collected for analysis of polychlorinated dibenzodioxins (PCDD) and

polychlorinated dibenzofurans (PCDF) using the toxicity characteristic leaching procedure (TCLP) and soluble threshold limit concentrations (STLC) analysis.

Ms. Smith asked how many acres the four soil borings represent. Mr. French replied that they represent 5 acres. Ms. Smith said that she believes four soil borings for 5 acres was insufficient. Mr. Humphreys asked if any samples were analyzed for lead, and Mr. French replied that analysis for lead would be discussed later in this presentation.

Mr. French said that an area on the southwestern shoreline is planned for re-development as a public beach. The regulatory agencies expressed concerns about a lack of data for soil in the vicinity of the planned re-development, so the Navy collected samples in the area. Two soil samples from 12 soil borings along the western shoreline of the beach and 12 sediment samples from cores located offshore of the beach were collected and analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), metals, and radionuclides (radium-226 and radium-228). Ms. Smith expressed her disappointment that the area was not tested for strontium-90 or tritium.

Mr. French said that 18 acres were identified as seasonal wetlands and that federal agencies must minimize destruction, loss, or degradation of wetlands under Federal Executive Order No. 11990.

Mr. French described the geotechnical and seismic issues and potential effects to the disposed wastes near the shoreline during an earthquake. He said that the geotechnical and seismic FS evaluated measures to prevent release of disposal waste into San Francisco Bay. Mr. French described two design issues that were considered to address the possible effects of earthquakes: slope failure, and liquefaction of fill materials (see Slide 9).

Mr. French presented remedies to the design issues. The first remedy presented was the cement gravity wall (Slide 10). This wall should be built to a depth of 45 to 50 feet below ground surface. The gravity wall would contain stone columns that would dissipate water pressure. Mr. French said that the problems with this remedy were cost, at $13.9 million, and constructability.

Mr. French described the groundwater study areas for the FS on Slide 12. He said that there are three study areas, and that the first area is composed of a relatively small VOC plume in the first water bearing zone. The second area is the area surrounding the VOC plume in the first water bearing zone, and the third area is the second water bearing zone within the boundaries of Site 1. Mr. French said that the VOC plume contains mostly chlorinated compounds, with lower quantities of benzene and toluene. Mr. French noted a "hot spot" in the plume with a concentration of 100,000 micrograms per liter (Slide 13). Mr. Humphreys asked about the proximity of the beach in respect to the "hot spot," and Mr. French replied that it was south of that area.

Mr. French displayed the groundwater alternatives for the VOC plume area on Slide 14. Mr. French said that the Navy selected active remediation alternatives based on the location and the relatively high concentrations. The first alternative discussed is no action; the second alternative is in situ chemical oxidation, which Mr. French noted is an aggressive treatment. The third alternative is bioremediation, and the fourth alternative is zero-valent iron powder injection and monitored natural attenuation, which were used successfully at Hunters Point Shipyard. Mr. Torrey asked how no action can be an alternative if there are such high concentrations of VOCs in the area. Mr. French replied that "no action" is required on the list of alternatives, even where "no action" is an unacceptable alternative. Mr. Humphreys asked about the funnel and gate treatment system previously discussed. Mr. French replied that the iron wall technology is a more passive approach and that a more aggressive method is desired. Ms. Smith asked

about the duration should the monitored natural attenuation alternative be chosen. Mr. French said that it would take place for about 30 years.

Mr. French displayed the five areas of soil that were studied in the FS (See Slide 15). Area 1 is the 26-acre formal disposal area and contains buried wastes. Area 2 is the paved area surrounding Area 1. Area 3 is the unpaved area outside of Area 1, which includes the wetlands. Area 4 is the old firing range berm, and Area 5 includes the shoreline. Mr. French discussed the elevated radium readings in each of the areas and said that about 900,000 discrete measurements have been taken at Site 1. Historical records indicate that there may have been a radium disposal trench in the northwestern portion of Area 1, where some of the highest radium readings were found, about 200,000 net counts per minute (CPM). Mr. French pointed out that there are very few radiological anomalies outside of Area 1. Mr. French added that there are various alternatives to address the radium contamination. He discussed three alternatives: (1) removal and off-site disposal of all of the radium in Area 1 and surrounding areas, (2) capping Area 1 and removing all the remaining anomalies outside Area 1, and (3) removing the consolidated radium waste disposal in the trench and then covering all the remaining anomalies.

Ms. Domingo noted that the radium survey was comprehensive and included a sweep of the entire area. Ms. Smith commented that the there might be higher radium concentrations below the depth where the survey was conducted. Mr. French said that the land area of Site 1 was originally constructed from fill material. Ms. Smith commented that originally the entire site was covered by water and asked if only the northwestern corner was built from waste materials. Mr. French agreed that only the northwestern corner was built from waste; that the rest of the site was constructed with fill material. Ms. Smith said that the radiological report, which she had read a few days ago, indicated that most of the area was constructed on waste. Ms. Smith then requested the Navy to research the parts of Site 1 that were constructed on waste versus the areas that were constructed on fill material. Ms. Smith said that there are inconsistencies in the history of the fill procedures between the radiological report and the Site 1 FS being presented. Ms. Domingo said that both the radiological report and the feasibility study are under review and that one of the documents would be corrected.

Mr. French discussed the possible alternatives for soil at Area 1, which include removal, soil cover with institutional controls, or a low-permeability cap with institutional controls. Mr. Sweeney asked if there were any specific risks from a complete removal. Mr. French said that such removal would be a large undertaking, and that it would require screening of the entire area for radiological materials.

Mr. Humphreys asked for an update on the suspected target practice areas used by Navy pilots. Ms. Domingo said that she was informed that the planes would shoot into pits, but that there was no record of where those pits were located. Ms. Domingo emphasized that Site 1 has been extensively sampled for analysis of metals because it is a previous disposal area. In addition, the area has been treated carefully because of the potential for unexploded ordnance.

The RAB members asked which of the FS alternatives appears most feasible. Mr. French replied that a soil cover with institutional controls would be the most feasible because it is least expensive and easiest to build and to maintain than the other alternatives. He also noted that the plume of VOCs in groundwater may take some time to remedy and that a soil cover would allow for easy monitoring of the plume. Mr. Humphreys asked what would occur if treatment of the groundwater was completed before the soil cover had been installed. Mr. French replied that the outcome he described would be ideal but that in some cases groundwater treatment takes longer than expected. Ms. Smith asked whether the remediation program would be delayed if there were no definite plans for reuse and the low-permeability cap was the desired alternative. Mr. Macchiarella replied that the remediation program would not be delayed due to

indefinite reuse plans, and indicated that the Navy will continue to work with the ARRA with regard to future use scenarios.

Mr. French presented remedies considered for Area 2, which is covered entirely by paved surfaces. Mr. French said that the pavement is a barrier from exposure to potential contaminants in soil. The alternatives he presented included (1) maintaining the pavement, (2) removal, which includes demolishing pavement, sampling underlying soil, and removing soil considered to pose unacceptable risk with either relocation to Area 1 or off-site disposal. Mr. French said that exposure to contaminants in soil would not be a problem if a golf course were to be established on top of Area 2 because an additional 4 feet of fill would be placed on the existing ground surface. Mr. Humphreys said that the pavement could not be maintained if a golf course were to be placed on top and that the pavement would eventually crack. Mr. Ripperda said that there is no agreement that asphaltic concrete is a form of impermeable barrier. Mr. Humphreys and Mr. Ripperda voiced concerns since the area has not been tested for possible contamination. Mr. French responded that the waste in Area 1 has been in place for 50 years, groundwater monitoring has been conducted in this area, and there is no evidence that groundwater is contaminated.

Ms. Smith noted that Mr. French's results only address radium, and that the groundwater contains strontium, cobalt, and other contaminants according to a document prepared 3 or 4 years ago. Ms. Smith said that she does not understand why radiation is being handled separately from chemical contamination. Mr. Humphreys pointed out that soils contaminated with mixed waste, which is composed of both chemical and radiological contaminants, are more difficult to dispose of since few disposal facilities will accept mixed wastes. Mr. Macchiarella replied that a Navy team is identifying applicable or relevant and appropriate requirements for radiological waste.

Mr. French presented the alternatives for soil in Area 3, where the seasonal wetlands are located. He said that historical data for surface soil are available in that area and that criteria have been developed for protection of these areas. One of the options is to leave the area as it is; another option is to conduct a tier 2 ecological risk assessment and remove soil considered to pose unacceptable risk. A community member asked if any levels exceeded industrial preliminary remediation goals (PRGs). Mr. French said that none of the results exceeded industrial PRGs; however, some isolated areas showed elevated concentrations of lead, but no other chemicals had been detected at elevated levels. Mr. Humphreys asked if there is a distinction between vernal pools and seasonal wetlands. Ms. Johnson replied that they both receive the same level of protection by the federal government.

Mr. French discussed the alternatives for soil in Area 4, which is the firing range berm. He said that the alternatives for soil in Area 4 include separation of bullets and shell casings from the firing range berm for recycling, followed by various combinations of relocation of all soil from the berm underneath the cover or cap in Area 1; relocation of the nonhazardous portion of the berm soil under the Area 1 soil cover; and off-site disposal.

Mr. French said that Area 5 is characterized by a relatively steep slope and is where the barges are located. He pointed out that the beach berm is the back side of the pistol range. He said that not much data for soil have been collected in this area due to the riprap and sunken barges. He presented the alternatives for Site 5: no action or a combination of the following actions: institutional controls, confirmation sampling; relocation or removal of hot spots from Areas 5a and 5b, and relocation or removal of shoreline debris considered to pose unacceptable risk. Mr. French said that an alternative for Area 1 would involve relocating the material from Area 5 to the interior of the Area 1 cover. This alternative would eliminate the need for the gravity wall because the material that could slump into the bay during an earthquake would be removed and replaced with clean material.

Mr. French discussed the comparative analysis that was carried out using standard CERCLA balancing criteria for the various alternatives. As a result of the analysis, the alternatives were assigned a ranking. He then summarized the costs of all the alternatives retained. The costs for the soil alternatives were presented as follows: the soil cover would cost $2.6 million; the cost of the low-permeability cap would be $15.1 million; and the cost of complete removal would be $91.9 million. The groundwater alternative costs ranged from $4.6 to $7.2 million. Mr. French said that the total estimated costs of all the possible combinations of groundwater and soil alternatives for each area ranged from $10.5 million to $121 million.

Mr. French said that BRAC Cleanup Team (BCT) comments on the feasibility study are due in early July.

V. BCT Activities

Mr. Macchiarella said that since Ms. Judy Huang was unavailable to attend, that he would provide the BCT update. Site 1 was discussed at the June BCT meeting, as was the Site Management Plan. Mr. Macchiarella said that a RI will be conducted at Site 35 beginning this year. He said that the Navy is attempting to accelerate the process by obtaining early input from the regulatory agencies on the work plan. He said that the BCT met with the "Senior BCT" to discuss an early transfer.

Ms. Smith said that she noticed that the RI and the FS for Site 35 are scheduled at the same time. Ms. Cook responded that the RI and the FS are scheduled concurrently to accelerate action at sites. She said that it is possible to accelerate action at sites with limited apparent problems. Mr. Matarrese asked how the regulatory agencies responded to the proposed early transfer. Mr. Macchiarella said that he felt the agencies supported an early transfer. Ms. Cook said that EPA supports an early transfer.

VI. Community and RAB Comment Period

Mr. Torrey said that during the Site 30 RI presentation at the May RAB meeting he had asked Mr. Johansen if benzene in groundwater posed risk to animals, and Mr. Johansen had replied that there is no exposure pathway for animals to contact the groundwater. Mr. Torrey then provided examples of how animals could be exposed to groundwater. He said that using groundwater to fill a bird bath or a pet's water dish would expose animals to groundwater. He said based on these examples he believes that Mr. Johansen's response to his question was incorrect.

Mr. Humphreys asked if the slurry cut-off wall proposed by Mr. Ted Splitter had been evaluated. Mr. Ripperda replied that it was included in the preliminary screen but that it was dismissed because there were several engineering problems with that remedy.

Mr. Lynch commented about an incident that occurred in the past that required firefighters to respond to Site 15, and that he believes no information was released to the firefighters about the possible health risks at the site. Mr. Lynch added that this incident violated the health and safety code. Mr. Lynch said that he witnessed some Mexican nationals picking up trash and said that he believes that incident violates immigration laws and health and safety laws. Mr. Lynch also commented that he has not seen any evidence that any of the plans for remediation of the underground utilities for Site 31 have been implemented. He continued that there was no indication in the manifest records that the contaminated soils were ever removed. He concluded his comments by expressing his disappointment that the Navy had installed an incinerator at Pacific and Main Street in Alameda.

Mr. Macchiarella responded to Mr. Lynch's last statement by saying that believes that the incinerator that Mr. Lynch was describing was in fact a catalytic oxidizer.

Mr. Matarrese said that he will ask the Bay Area Air Quality Management Board to examine the emissions from the device on Pacific and Main Street. He also asked if EPA could consider it as well.

Mr. Matarrese said that the last city pre-development meeting will be on at 6:30 p.m. on June 8.

There were no further comments, and the meeting was adjourned at 8:45 p.m.

ATTACHMENT A

NAVAL AIR STATION ALAMEDA
RESTORATION ADVISORY BOARD MEETING AGENDA
June 2, 2005

(One Page)

RESTORATION ADVISORY BOARD

NAVAL AIR STATION, ALAMEDA

AGENDA

JUNE 2, 2005 6:30 PM

ALAMEDA POINT – BUILDING 1 – SUITE 140
COMMUNITY CONFERENCE ROOM
(FROM PARKING LOT ON W MIDWAY AVE, ENTER THROUGH MIDDLE WING)

TIME	SUBJECT	PRESENTER
6:30 - 6:45	Opening & Approval of Minutes	Jean Sweeney
6:45 - 7:00	Co-Chair Announcements	Co-Chairs
7:00 – 7:20	Presentation of Annual Draft Amendment to the Site Management Plan	Thomas Macchiarella
7:20 – 8:00	Presentation of Draft Feasibility Study for Site 1 (1943 – 1956 Disposal Area)	Claudia Domingo & Jim French
8:00 – 8:10	BCT Activities	Judy Huang
8:10 – 8:30	Community & RAB Comment Period	Community & RAB
8:30	RAB Meeting Adjournment	

ATTACHMENT B

NAVAL AIR STATION ALAMEDA
RESTORATION ADVISORY BOARD MEETING HANDOUT MATERIALS

B-1 List of significant Navy CERCLA program documents for June/July 2005. Presented by Thomas Macchiarella, BRAC PMO-West (1 page).

B-2 Summary of June 2005 Annual Amendment to the Site Management Plan. Presented by Thomas Macchiarella, BRAC PMO West (1 page).

B-3 IR Site 1 Feasibility Study Update. Presented by Jim French, Bechtel, and Claudia Domingo, BRAC PMO West. Dated June 2, 2005 (12 pages).

ATTACHMENT B-1

LIST OF UPCOMING CERCLA DOCUMENTS FOR JUNE/JULY 2005

(One Page)

Alameda Point Restoration Advisory Board Meeting
June 2, 2005

Significant Navy CERCLA program documents planned for June/July 2005

- OU-1 (Sites 6, 7, 8 and 16) Draft Final Feasibility Study Report
- Draft amendment to the Site Management Plan
- Site 1 and Site 2 Final Radiological Survey Reports
- Site 34 Draft Remedial Investigation Workplan
- OU-2C Sites 5, 10, 12 Draft RI Report
- OU-2A Sites 9, 13, 19, 22, 23

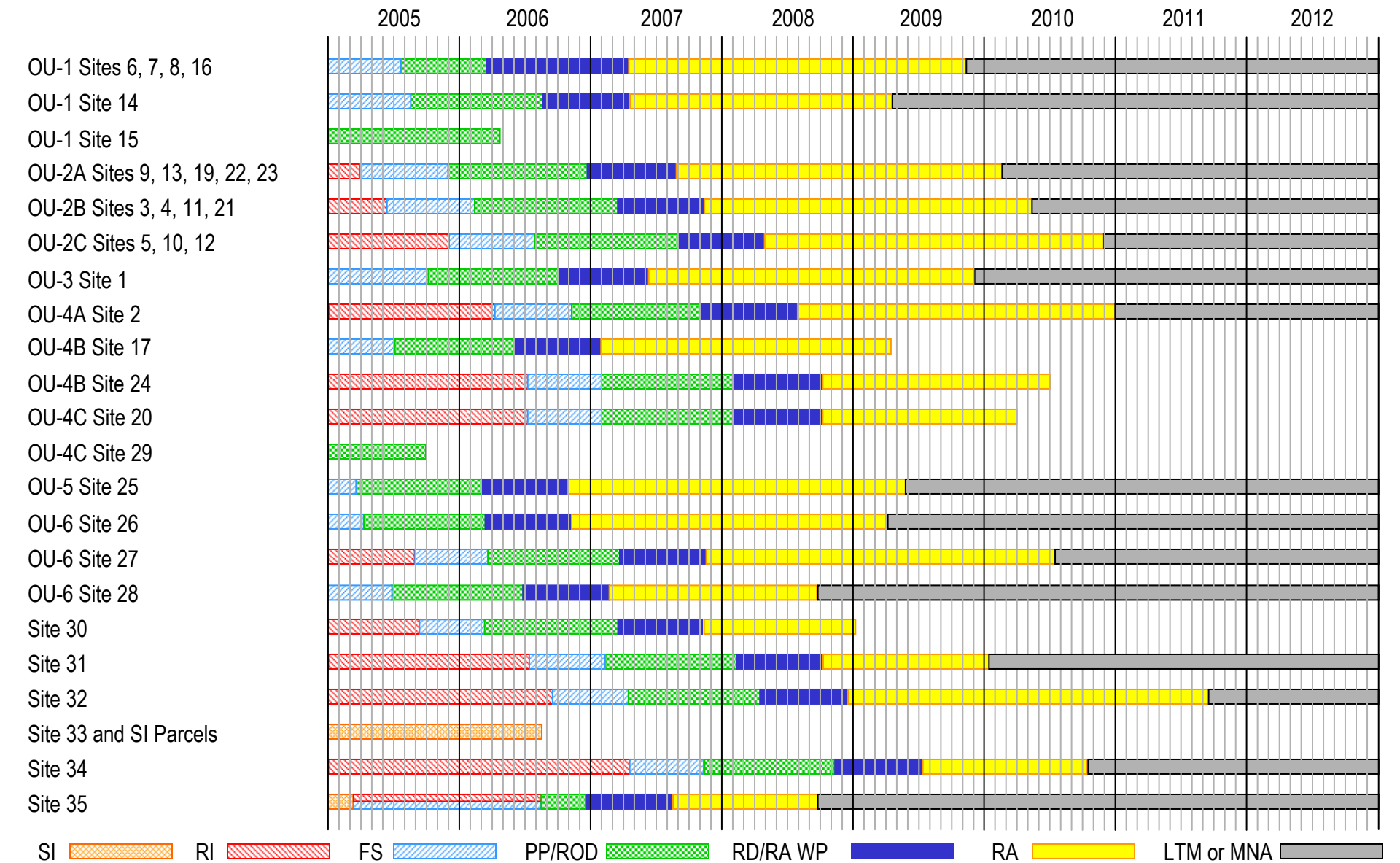
ATTACHMENT B-2

SUMMARY OF JUNE 2005 ANNUAL AMENDMENT TO THE SITE MANAGEMENT PLAN

(One Page)

Draft SMP Schedule (June 2, 2005)

BRAC PMO WEST



ATTACHMENT B-3

IR SITE 1 FEASABILITY STUDY UPDATE

(Twelve Pages)

Welcome

BRAC PMO WEST

IR Site 1 Feasibility Study Update
Alameda Point

Claudia Domingo
Remedial Project Manager
BRAC Program Management Office West
Jim French, Bechtel Environmental, Inc.
June 2, 2005

IR Site 1 Location

BRAC PMO WEST

Agenda

BRAC PMO WEST

- What's New
- FS Results
- What's Next?

What's New?

BRAC PMO WEST

Historic Training Wall

Burn & Beach Area Sampling

Alameda Training Wall

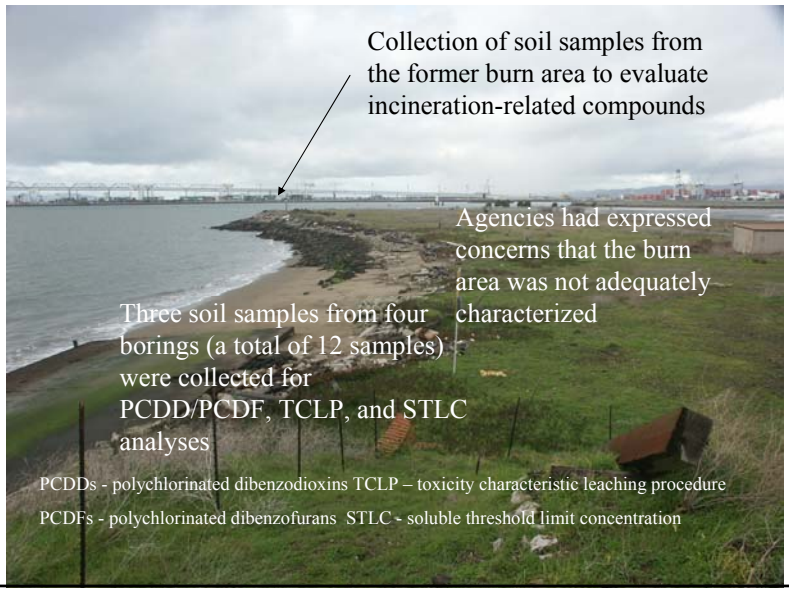
BRAC PMO WEST

- The Alameda Training Wall is a rubble masonry jetty built by the United States Army Corps of Engineers between 1874 and 1896 to "train" the tides to scour a navigational channel between Oakland and Alameda
- The Navy entered into a MOA with the State and has agreed to protect the the training wall as a historic property.

MOA – Memorandum of Agreement

Beach & Burn Area Sampling

BRAC PMO WEST

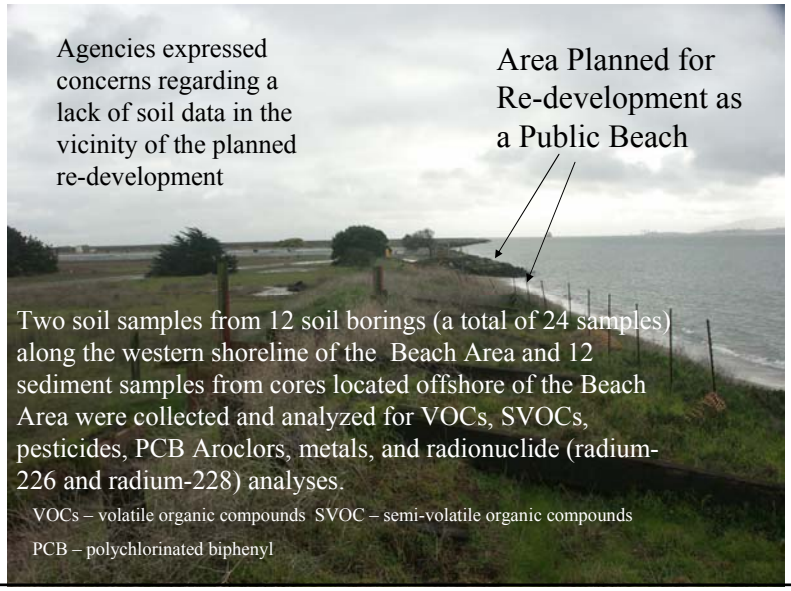


PCDDs - polychlorinated dibenzodioxins TCLP – toxicity characteristic leaching procedure

PCDFs - polychlorinated dibenzofurans STLC - soluble threshold limit concentration

Beach & Burn Area Sampling

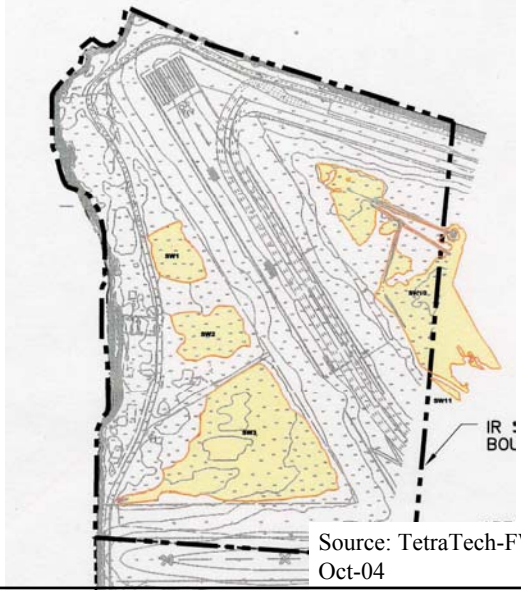
BRAC PMO WEST



Seasonal Wetland Areas

BRAC PMO WEST

Federal Executive Order No. 11990 requires that federal agencies minimize the destruction, loss, or degradation of wetlands; preserve and enhance the natural and beneficial value of wetlands; and avoid support of new construction in wetlands if a practicable alternative exists.

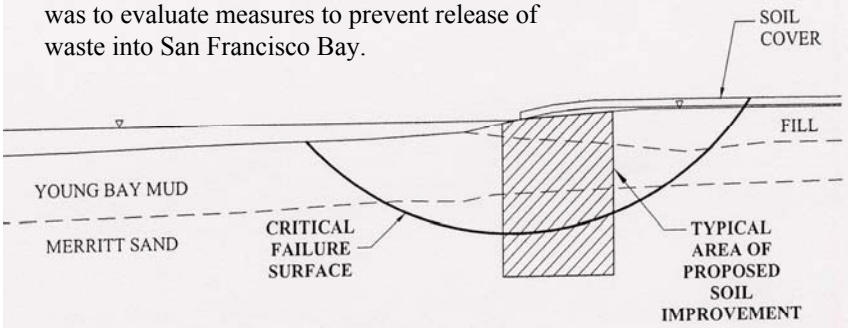


Source: TetraTech-FW Oct-04

Geotechnical & Seismic FS

BRAC PMO WEST

Purpose of Geotechnical & Seismic (Geotech) FS was to evaluate measures to prevent release of waste into San Francisco Bay.

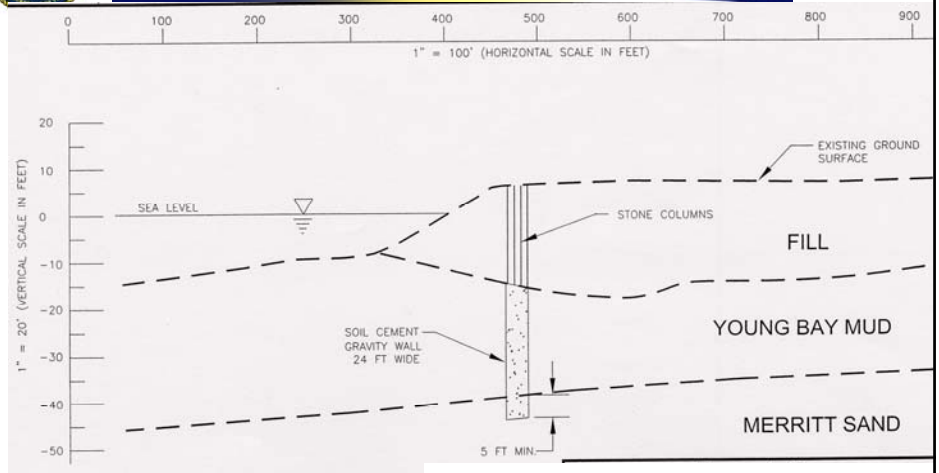


Two design issues were:

- Slope failure during earthquake
- Liquifying of fill materials during earthquake

Geotech FS Preferred Remedy

BRAC PMO WEST



Soil Cement Gravity Wall with Stone Columns along shoreline perimeter

Cost: $13.9 million

Issues & Options- Geotech Remedy

BRAC PMO WEST

Issues:

•Constructability

•Cost

Opportunities:

•Incorporate FS alternatives that could eliminate the need for these types of measures

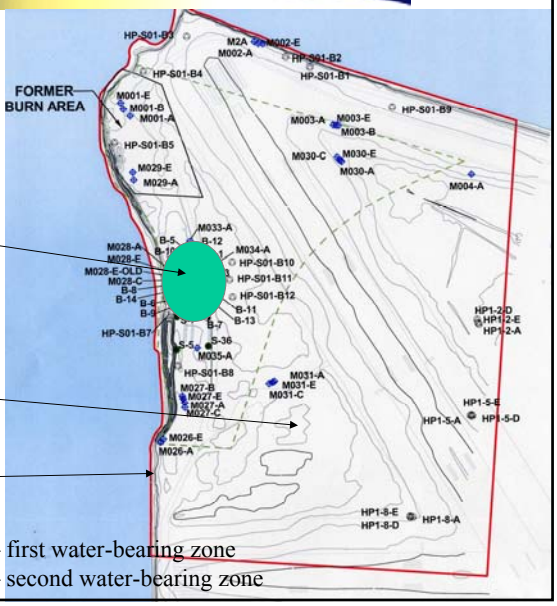
FS Groundwater Study Areas

BRAC PMO WEST

FWBZ – VOC Plume

FWBZ – Outside VOC Plume

SWBZ (Underlies FWBZ areas)

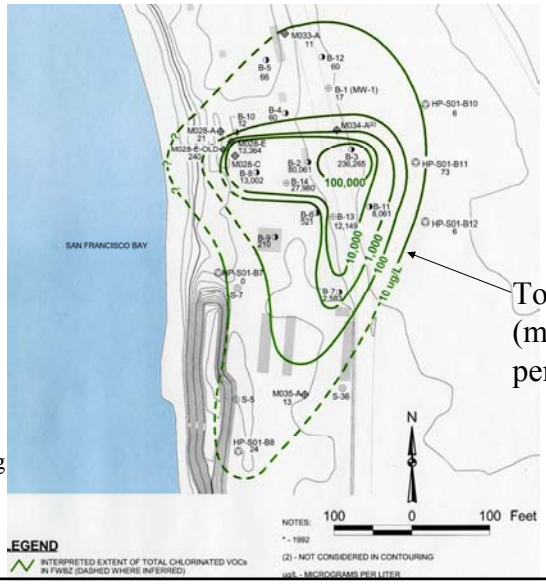


FWBZ – first water-bearing zone
SWBZ – second water-bearing zone

VOC Plume in FWBZ

BRAC PMO WEST

(Based on data from multiple sampling events)



Total VOCs (micrograms per liter)

FWBZ – first water-bearing zone

VOC –volatile organic compound

Groundwater Alternatives

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Alt	VOC Plume Area	FWBZ Outside Plume	SWBZ
GW1	no action	no action	no action
GW3	ISCO/MNA	monitoring	monitoring
GW4	Enhanced bioremediation/MNA	monitoring	monitoring
GW5	ZVI powder injection/MNA	monitoring	monitoring

MNA – monitored natural attenuation
FWBZ – first water-bearing zone
ZVI – zero-valent iron

ISCO – *in situ* chemical oxidation
SWBZ – second water-bearing zone

FS Soil Study Areas

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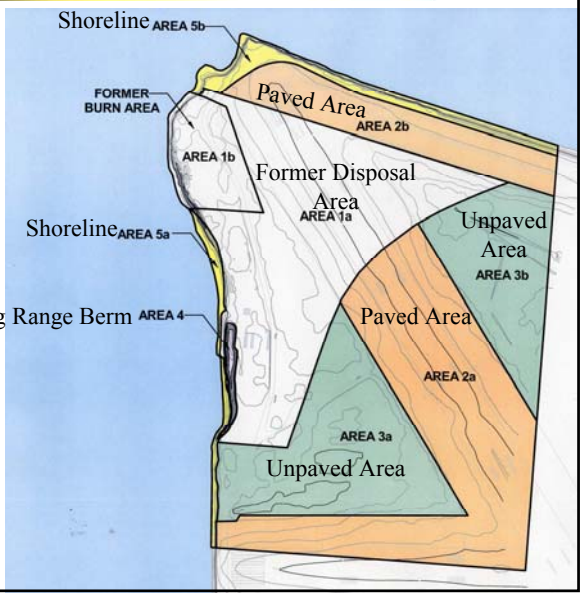
Assumed receptors:

-Recreational visitor

- Terrestrial ecological receptor



Elevated Radium Readings

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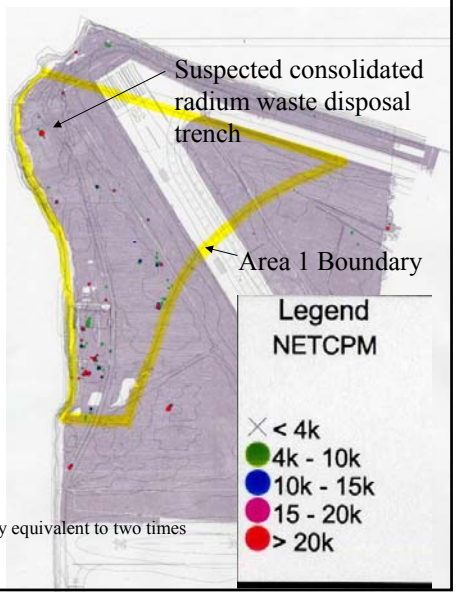
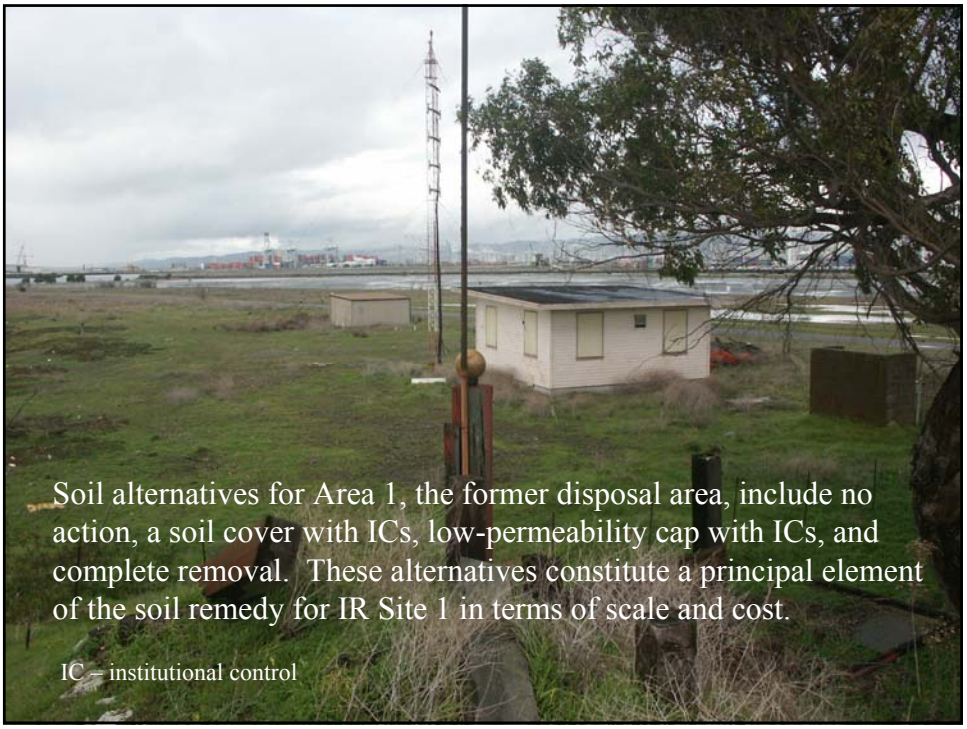
Alternatives to address areas of radium contamination at IR Site 1 include no action, removal of radium contamination in Areas 3 and 5 plus one location in Area 1b suspected of being a consolidated radium waste disposal trench, and removal of all radium contamination

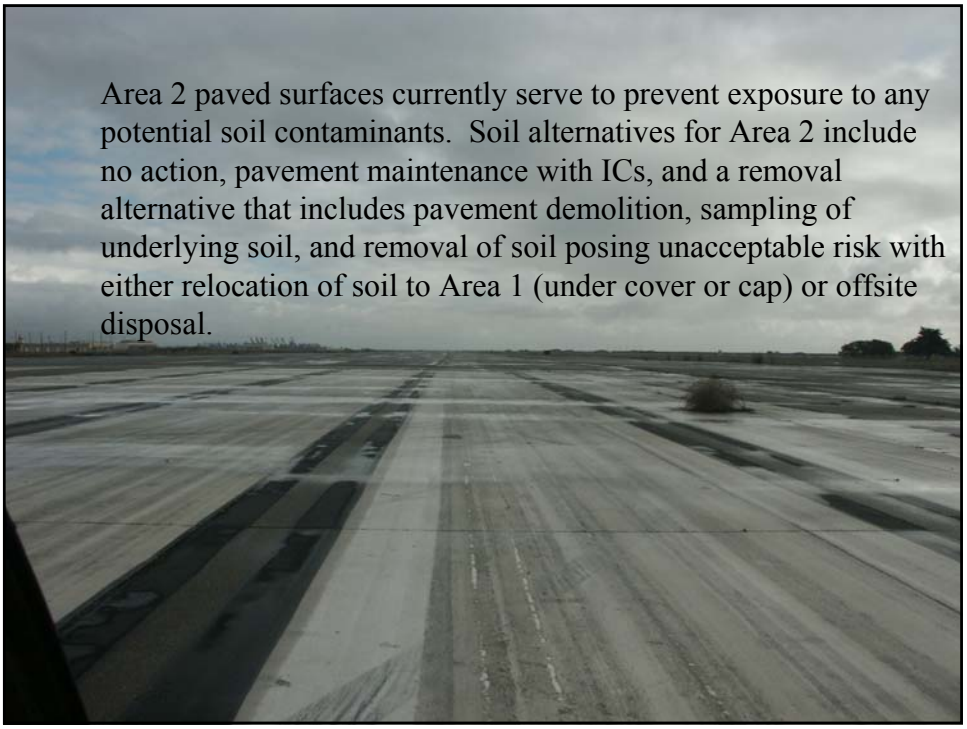


Note: 4,000 NETCPM is roughly equivalent to two times background



Soil alternatives for Area 1, the former disposal area, include no action, a soil cover with ICs, low-permeability cap with ICs, and complete removal. These alternatives constitute a principal element of the soil remedy for IR Site 1 in terms of scale and cost.

IC – institutional control



Area 2 paved surfaces currently serve to prevent exposure to any potential soil contaminants. Soil alternatives for Area 2 include no action, pavement maintenance with ICs, and a removal alternative that includes pavement demolition, sampling of underlying soil, and removal of soil posing unacceptable risk with either relocation of soil to Area 1 (under cover or cap) or offsite disposal.

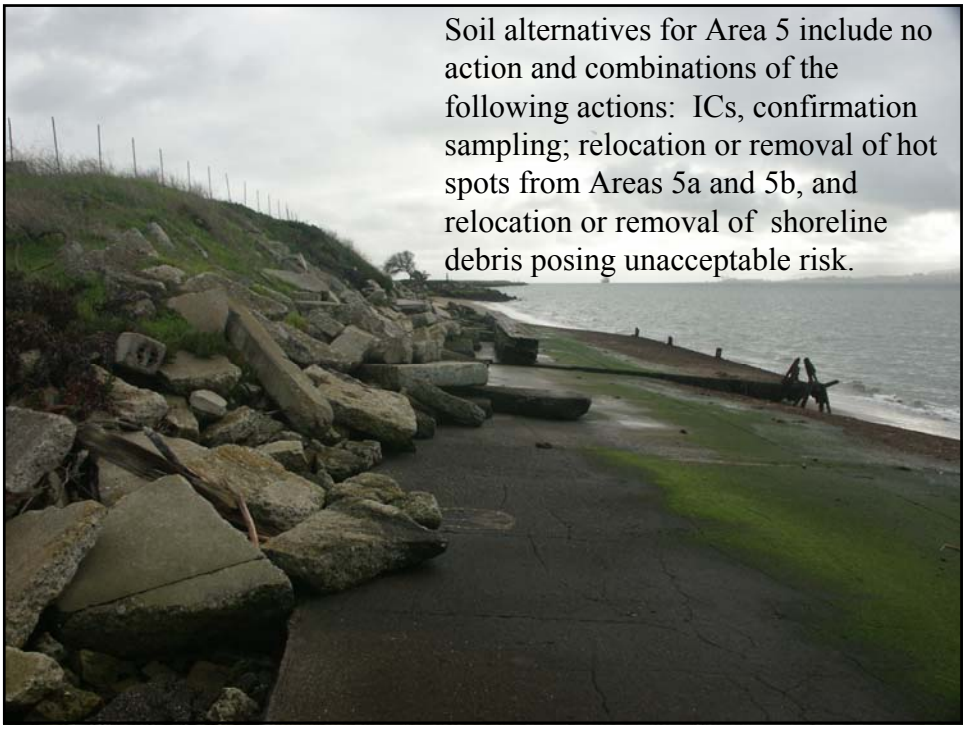
Most of the seasonal wetlands at IR Site 1 are located in Area 3, and therefore special consideration was given to preserving these areas if possible. Soil alternatives for Area 3 include no action, a Tier 2 ecological risk assessment (ERA) with ICs, and Tier 2 ERA and excavation and removal of soil posing unacceptable risk with either relocation of soil to Area 1 (under cover or cap) or offsite disposal.

Area 4 – Firing Range Berm

Volume = 3,200 bank cubic yards

Soil alternatives for Area 4 include no action, separation of bullets and shell casings from the firing-range berm for recycling, followed by various combinations of the following: relocation of all berm soil underneath the cover or cap in Area 1, relocation of the nonhazardous portion of the berm soil under the Area 1 soil cover, and off-site disposal.

Shell Casing Found In Berm Area



Soil alternatives for Area 5 include no action and combinations of the following actions: ICs, confirmation sampling; relocation or removal of hot spots from Areas 5a and 5b, and relocation or removal of shoreline debris posing unacceptable risk.

Detailed and Comparative Analysis

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- The retained alternatives passed the threshold test of Protection of Human Health and the Environment and Compliance with ARARs
- A comparative analysis by CERCLA balancing criteria was performed, considering:
  - long-term effectiveness and permanence
  - short-term effectiveness
  - reduction of toxicity, mobility or volume through treatment
  - implementability
  - cost
- Comparative rankings of "low", "medium" or "high" were assigned based on how each alterative performed on the criterion relative to the other alternatives.

Estimated Cost

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- Present-value cost of the Area 1 soil cover, low-permeability cap, and complete removal alternatives are $2.6, $15.1, and $91.9 million, respectively.
- Groundwater present-value costs ranged from $4.6 to $7.2 million.
- Selection of a groundwater alternative and soil alternatives for each area (including rad) result in a site-wide range from $10.5 to $121 million in present-value costs*.

* - Excluding geotech & seismic remedy costs. Excludes No Action alternatives.

rad – radium-impacted waste

What's Next?

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